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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/719,963

11/21/2003

Kiyoshi Suzuki

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7590

08/23/2006

EXAMINER

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ART UNIT

PAPER NUMBER

2624

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,963

Applicant(s)

SUZUKI ET AL.

Examiner

Phuoc Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-35 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/709,517.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/9/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-8, 10, 12-24, and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants' admitted prior art described in the Background of the specification in view of Eschbach (5,208,871).

5. For claims 1, 12, 19, and 28, inputting pixel color values of a first number of color values is obviously provided in the background on page 1, lines 10-20, and also by Eschbach in at least

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c. 5, lines 10-20, in Fig. 1, and in c. 4, lines 36-39, where "color applications is obvious".

Generating approximated color image data, where a second number of color value is smaller than the first is provided by Eschbach in at least c. 3, lines 30-35, and as shown in at least Fig. 1.

This Xerox invention can be used by the conventional copier of Fig. 1 of the Drawings of the Applicant, since printing and several other image processing applications, such as error diffusion and dithering are provided by both the Background of the Applicant and Eschbach (c. 3, lines 40-50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the invention of Eschbach with conventional color printing, since Eschbach provides for, at the very least, the ability to convert from any resolution, at any bit depth (e.g. number of color values), and at any rotation angle, to another resolution, bit depth, and rotation angle. Generating processed approximated color data is provided by conventional image processing functions in the Background and in Fig. 1, block 5. Conventional image processing functions are also provided by Eschbach in at least the first few lines in c. 4, such as scaling and rotation. Outputting a reproduced image based on the processed data and converted data is provided by Eschbach in at least Fig. 1 and 3, lines 30-35, and in Fig. 1 of the Drawings of the Applicant in block 9. Converting to output processed color image data is provided by Fig. 1 of the Drawings of the Applicant in blocks 7 and 8, and by Eschbach in at least c. 3, lines 30-60.

For claims 2 and 20, a first number of 256 is at least obviously, if not inherently, provided by Eschbach, since 8 bits, a byte, or octet, is very often the usual number of levels provided, and in any case, Eschbach provides for "b" levels in general in at least c. 5, lines 10-20. Reducing to 4 bits is explicitly noted as an example by Eschbach in c. 3, lines 30-34, and c. 5, lines 15-25, where, again, Eschbach provides for "d" levels in general, and is thus not limited to only 4.

For claims 3, 13, 23, and 29, optical scanning, A/D conversion, correcting the digitized image, and generating color signal values in a second color system (e.g. RGB to CMYK), is provided by the Drawings of the Applicant in blocks 1-5, and as noted in the Background on page 1, lines 10-22.

For claim 4, transmitting from a first location to a second between the steps of approximating and processing is suggested by Eschbach in at least c. 4, lines 1-10, where at

least scaling is processing, and error diffusion is approximating, since the two processes are separate. Transmission is also explicitly provided in the Background on page 2, line 26.

For claim 5, the steps of processing and outputting provided at a second location is not explicitly provided by Eschbach, but is equivalently provided, since these functions are separately provided as noted above, and the image processing and output functions of Fig. 1 of the Drawings of the Applicant can be considered as a location.

For claims 6, 14, 27, and 30, enlargement, reduction, and superimposition is provided in the Background of the specification on page 1, lines 23-25, where superimposition is apparently disclosed as "cutting" on page 7, line 3, line 32, page 14, lines 5-20, and in Fig. 8B.

For claim 7, error diffusion is provided by Eschbach in at least c. 4, lines 1-10, and is also noted as conventional on page 3 of the Background.

For claim 8, distributed weighted error is provided by Eschbach in at least Fig. 5.

For claim 10, dithering is provided by both Eschbach as noted above, and the Applicant in the Background on page 3.

For claim 15, intensity and chromaticity correction is provided by Fig. 1 of the Applicant in blocks 7 and 8.

For claims 16-18, although, intensity and chromaticity conversion is provided by the prior art Fig. 1 of the Applicant, look-up tables or LUTs are not explicitly provided for intensity and chromaticity conversion, but are generally used and are also commonly implemented by ROM or RAM circuits. This conventional and well known feature can be used in the prior art Fig. 1 of the Applicant or by Eschbach, official notice. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use LUTs for intensity and chromaticity conversion, since LUTs generally provide for fast conversion.

For claim 21, see the rejection of at least claim 2 and 20 above, where 2^8 corresponds to 256 and 2^2 corresponds to 4.

For claim 22, see the rejection of at least claim 12, step c.

For claim 24, a weighted difference error and error distribution process is provided by Eschbach in at least c. 8, lines 23-60.

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For claim 26, see the rejection of at least claim 4 above.

For claim 31, see the rejection of at least claim 16-17 above.

6. Claims 4-5 are rejected under 35 U.S.C. 103 as being unpatentable over the Background of the specification in view of Eschbach, 5,208,871, as applied to claims 1-8, 10, 12-24, and 26-31 above, and further in view of Hiratsuka et al., 4,803,558, or Kawata, 5,243,441.

For claims 4 and 5, see the rejection of claims 4 and 5 above with respect to the Background and Eschbach. Eschbach notes that either error diffusion or other techniques can be used in the approximating or reduction process, such as dithering, which is provided by Hiratsuka et al. in at least Fig. 1. Eschbach and Fig. 1 of the Applicant already provides for transmitting between locations, and Hiratsuka et al. provide for image processing such as scaling after approximating by dithering. Outputting is also provided by Hiratsuka et al. in the first few lines in c. 1. Eschbach and the conventional copier of the Background can use the concept of performing image processing after approximating, since they both provide for approximating, e.g. error diffusion or dithering. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the image processing of Hiratsuka et al., since they provide for quick processing, enlargement, reduction, and overcome moiré fringes, low resolution, and blurring as noted in c. 2, lines 30-55.

For claims 4 and 5, see the above rejection with respect to Hiratsuka et al. Furthermore, Kawata also provides for dithering followed by image processing by block 14 in Fig. 8, and in c. 3. Eschbach and the conventional copier of the Background can use the concept of performing image processing after approximating, since they both provide for approximating, e.g. error diffusion or dithering. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the image processing of Kawata, since the image processing of Kawata provides for avoiding picture quality degradation by maintaining continuity as noted in at least the abstract.

7. Claims 9 and 25 are rejected under 35 U.S.C. 103 as being unpatentable over the Background of the specification in view of Eschbach, 5,208,871, as applied to claims 1-8, 10, 12-24, and 26-31 above, and further in view of Fan, 5,521,989.

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For claim 9, accumulating weighted error from surrounding pixels is not explicitly provided by Eschbach, but is conventional and well known and is provided by Fan in at least Fig.

3. This feature can also be used by Eschbach, since it is also an error diffusion process. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the error accumulation of Fan, since he provides for a more symmetric error distribution which does not form correlated artifacts in the image.

For claim 25, see the rejection of at least claims 9 and 24 above.

8. Claim 11 is rejected under 35 U.S.C. 103 as being unpatentable over the Background of the specification in view of Eschbach, 5,208,871, as applied to claims 1-8, 10, 12-24, and 26-31 above, and further in view of Godshalk et al., 5,384,646.

For claim 11, decompression before outputting is not explicitly provided by Eschbach, but this is conventional and well known, as it is provided for example by Godshalk et al. in at least c. 8, lines 1-30, since 2-bits is "decompressed" to 6-bits for printing, which is in accordance with the specification in the paragraph bridging pages 16-17. This feature of Godshalk et al. can be used by Eschbach, since this can provide for changing the bit depth for a particular printer, where changing the bit depth or number of levels is already provided by Eschbach. It would have been obvious to one having ordinary skill in the art at the time the invention was made to decompress, since this provides for higher gradation printing, i.e. more resolution, and because Godshalk et al. also provide for corrected "decompressed" data.

9. Claims 32-33 are rejected under 35 U.S.C. 103 as being unpatentable over the Background of the specification in view of Eschbach, 5,208,871, as applied to claims 1-8, 10, 12-24, and 26-31 above, and further in view of Hikosaka et al., 5,519,509.

For claims 32-33, normalized weighted pixel color values of 2 to the nth or $\frac{1}{2}$ to the nth is provided by Hikosaka et al. in at least Figs. 2 and 3. This conventional error diffusion process can be used by Eschbach, since he already provides for error diffusion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the error diffusion of Hikosaka et al., since they provide for modifiable error that changes the visual halftone density.

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10. Claims 34-35 are rejected under 35 U.S.C. 103 as being unpatentable over the Background of the specification in view of Eschbach, 5,208,871, and Hikosaka et al., 5,519,509, as applied to claims 32-33 above, and further in view of Fan, 5,521,989.

For claims 34-35, Hikosaka et al. provide for the same type of weight table, but do not provide for the factor of 3/8. However, using a factor of 3/8 is conventional and well known, and can be used by Hikosaka et al., as taught by Fan in at least Fig. 3. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the factors of Fan, since they provide for a normalized balanced weighting in c. 6, lines 50-57.

11. This is a continuation of applicant's earlier Application No. 08/709,517. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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12. The information disclosure statement filed 2/9/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. The Loetling reference (reference CB in the IDS filed 2/9/04) has not been considered because a copy of the reference was not provided.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuoc Tran whose telephone number is (571) 272-7399. The examiner can normally be reached on MON-FRI.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


PHUOCTRAN
PRIMARY EXAMINER